



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/725,171	12/01/2003	Michael J. Haun	25398B	8839
22889	7590	10/12/2006		EXAMINER
OWENS CORNING 2790 COLUMBUS ROAD GRANVILLE, OH 43023				KEMMERLE III, RUSSELL J
			ART UNIT	PAPER NUMBER
			1731	

DATE MAILED: 10/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/725,171	HAUN, MICHAEL J.	
Examiner	Art Unit		
Russell J. Kemmerle III	1731		

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

1)  Responsive to communication(s) filed on 01 December 2003.

2a)  This action is **FINAL**.                            2b)  This action is non-final.

3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

4)  Claim(s) 1-26 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5)  Claim(s) \_\_\_\_\_ is/are allowed.  
6)  Claim(s) 1-26 is/are rejected.  
7)  Claim(s) \_\_\_\_\_ is/are objected to.  
8)  Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

9)  The specification is objected to by the Examiner.

10)  The drawing(s) filed on \_\_\_\_\_ is/are: a)  accepted or b)  objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)  The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a)  All    b)  Some \* c)  None of:  
1.  Certified copies of the priority documents have been received.  
2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1)  Notice of References Cited (PTO-892)  
2)  Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3)  Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 12/01/03.

4)  Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_ .  
5)  Notice of Informal Patent Application  
6)  Other: \_\_\_\_ .

## DETAILED ACTION

### ***Information Disclosure Statement***

The information disclosure statement filed 12/01/03 listed three non-patent literature references as prior art (Low, Brown and Liu), however applicant did not send copies of these references with the IDS. Copies of these references were found in application 09/494,968 filed 1/31/00 (now patent 6,340,650) to the same applicant, and have been placed in the record of this file.

### ***Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1 and 15 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1 and 10 of U.S. Patent No. 6,340,650 (Haun). Although the conflicting claims are not identical, they are not patentably distinct from each other because both sets of claims teach a method of turning waste glass into a ceramic product, by essentially the same method. The claims in the current application refer only to turning fiber glass waste into a

ceramic product, whereas the claims from the '650 patent refer to making a ceramic product from any waste glass. The specification of the '650 patent specifically teaches that waste fiber glass could be used in the claimed invention to create a ceramic product (Col 1 lines 51-54). Claim 1 of the current application recites mixing the glass powder with any additive, whereas claim 1 of the '650 patent refer specifically to mixing the glass powder with an organic binder. The specification of the current application specifically recites that the additive could include an organic binder (Page 5). Referring to claim 15, it simply recites that the additive include a non-aqueous organic binder, the same additive claimed in Claims 1 and 10 of the '650 patent.

Claim 4 is rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 2 and 11 of U.S. Patent No. 6,340,650 (Haun). Although the conflicting claims are not identical, they are not patentably distinct from each other because both sets of claims teach the method as claimed in their respective base claims teaching essentially the same method of preparing a ceramic product from glass powder, where the waste glass is reduced to a powder with a particle size of less than about 0.6 mm.

Claim 8 is rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 13 of U.S. Patent No. 6,340,650 (Haun). Although the conflicting claims are not identical, they are not patentably distinct from each other because both sets of claims teach the method as claimed in their respective base claims teaching essentially the same method of preparing a ceramic product from glass powder, where the composition of the powder used is essentially identical.

Claim 11 is rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 15 of U.S. Patent No. 6,340,650 (Haun). Although the conflicting claims are not identical, they are not patentably distinct from each other because both sets of claims teach the method as claimed in their respective base claims teaching essentially the same method of preparing a ceramic product from glass powder, where an inorganic colorant is added to the glass powder.

Claim 12 is rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 16 of U.S. Patent No. 6,340,650 (Haun). Although the conflicting claims are not identical, they are not patentably distinct from each other because both sets of claims teach the method as claimed in their respective base claims teaching essentially the same method of preparing a ceramic product from glass powder, where a coarse-sized particle is added to the glass powder to roughen the surface texture of the ceramic product.

Claim 23 is rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 6 and 18 of U.S. Patent No. 6,340,650 (Haun). Although the conflicting claims are not identical, they are not patentably distinct from each other because both sets of claims teach the method as claimed in their respective base claims teaching essentially the same method of preparing a ceramic product from glass powder, where heating the ceramic green article cause partial crystallization.

Claim 24 is rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 7 and 19 of U.S. Patent No. 6,340,650 (Haun). Although the conflicting claims are not identical, they are not patentably distinct from each other because both sets of claims teach the method as claimed in their respective base claims teaching essentially the same method of preparing a ceramic product from glass powder, where the ceramic product is a tile or brick.

Claim 25 is rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 8 and 20 of U.S. Patent No. 6,340,650 (Haun). Although the conflicting claims are not identical, they are not patentably distinct from each other because both sets of claims teach the method as claimed in their respective base claims teaching essentially the same method of preparing a ceramic product from glass powder, where the ceramic product has a smooth glossy surface.

Claim 26 is rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 9 and 21 of U.S. Patent No. 6,340,650 (Haun). Although the conflicting claims are not identical, they are not patentably distinct from each other because both sets of claims teach the method as claimed in their respective base claims teaching essentially the same method of preparing a ceramic product from glass powder, where the ceramic process is further processed by applying glaze to it.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 4, 7, 16-17 and 20-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brown et al (Process design for the production of a ceramic-like body from recycled waste glass, J of Materials Science, Vol 17, pp 2164-2193, 1982).

Referring to Claim 1, Brown teaches crushing waste glass to form a glass powder, mixing the glass powder with an additive (notably a binder and water), forming the powder mixture into the desired shape, and firing the resulting piece to produce a product having ceramic-like properties (page 2165, last paragraph of the first column through the second column).

Brown does not teach the method of using fiber glass waste as the starting material in this process.

It would have been obvious to one of ordinary skill in the art, at the time of invention by applicant, to have modified the method taught by Brown by using fiber glass waste as the starting material since Brown teaches the method of grinding waste glass into a powder, mixing the powder with an additive, forming the powder mixture into a desired shape, and firing the resulting piece by using waste glass as the starting material, and it would have been obvious to one of ordinary skill in the art that any type of waste glass, including waste fiber glass, could be used in the method taught by Brown.

Referring to Claim 4, Brown is relied upon as discussed above.

Brown further teaches reducing the waste glass to a particle size of less than 353 microns (0.353 mm) (page 2166 section 3, first paragraph).

It would have been obvious to one of ordinary skill in the art, at the time of invention by applicant, to have modified the method taught by Brown by using fiber glass waste as the starting material and grinding it to a particle size of less than 0.6 mm since Brown teaches the method of grinding waste glass into a powder with a particle size of less than 0.353 mm, mixing the powder with an additive, forming the powder mixture into a desired shape, and firing the resulting piece by using waste glass as the starting material, and it would have been obvious to one of ordinary skill in the art that any type of waste glass, including waste fiber glass, could be used in the method taught by Brown.

Referring to Claim 7, Brown is relied upon as discussed above.

Brown further teaches the method of reducing the waste glass by passing it twice through a jaw crusher, and twice through a steel disc mill (process where no liquid is added) (page 2166 section 3, first paragraph).

It would have been obvious to one of ordinary skill in the art, at the time of invention by applicant, to have modified the method taught by Brown by using fiber glass waste as the starting material and reducing it to a powder without liquid added since Brown teaches the method of grinding waste glass into a powder by means where no liquid is added, mixing the powder with an additive, forming the powder mixture into a desired shape, and firing the resulting piece by using waste glass as the starting material, and it would have been obvious to one of ordinary skill in the art that any type of waste glass, including waste fiber glass, could be used in the method taught by Brown.

Referring to Claims 16 and 17, Brown is relied upon as discussed above.

Brown further teaches mixing the glass powder and a binder in water (page 2168-2169 section 4.4).

It would have been obvious to one of ordinary skill in the art, at the time of invention by applicant, to have modified the method taught by Brown by using fiber glass waste as the starting material and mixing the glass powder with an additive in a liquid (Claim 16) or in water (Claim 17) since Brown teaches the method of grinding waste glass into a powder, mixing the powder with an additive in water, forming the powder mixture into a desired shape, and firing the resulting piece by using waste glass as the starting material, and it would have been obvious to one of ordinary skill in the art that any type of waste glass, including waste fiber glass, could be used in the method taught by Brown.

Referring to Claim 20, Brown is relied upon as discussed above.

Brown further teaches the method of forming the glass powder mixture into the desired shape by pressing it (page 2169, section 4.5).

It would have been obvious to one of ordinary skill in the art, at the time of invention by applicant, to have modified the method taught by Brown by using fiber glass waste as the starting material since Brown teaches the method of grinding waste glass into a powder, mixing the powder with an additive, forming the powder mixture into a desired shape by pressing the glass powder mixture, and firing the resulting piece by using waste glass as the starting material, and it would have been obvious to one of

ordinary skill in the art that any type of waste glass, including waste fiber glass, could be used in the method taught by Brown.

Referring to Claim 21, Brown is relied upon as discussed above.

Brown further teaches heating the pressed pieces to a temperature of 820°C to 940°C (Page 2179-2180, section 3.7).

It would have been obvious to one of ordinary skill in the art, at the time of invention by applicant, to have modified the method taught by Brown by using fiber glass waste as the starting material and firing the pressed piece to a maximum temperature of 700°C to 1000°C since Brown teaches the method of grinding waste glass into a powder, mixing the powder with an additive, forming the powder mixture into a desired shape, and firing the resulting piece to a temperature of 820°C to 940°C by using waste glass as the starting material, and it would have been obvious to one of ordinary skill in the art that any type of waste glass, including waste fiber glass, could be used in the method taught by Brown.

Referring to Claim 22, Brown is relied upon as discussed above, specifically in the rejection of Claim 21.

Brown further teaches drying the pressed body either at ambient temperature or at 110°C (page 2169 section 4.6) before firing the piece at 820°C to 940°C (Page 2179-2180, section 3.7).

It would have been obvious to one of ordinary skill in the art, at the time of invention by applicant, to have modified the method taught by Brown by using fiber glass waste as the starting material, drying the pressed piece before firing it and firing

the pressed piece to a maximum temperature of 700°C to 1000°C since Brown teaches the method of grinding waste glass into a powder, mixing the powder with an additive, forming the powder mixture into a desired shape, drying the pressed piece either at ambient temperature or at 110°C and firing the resulting piece to a temperature of 820°C to 940°C by using waste glass as the starting material, and it would have been obvious to one of ordinary skill in the art that any type of waste glass, including waste fiber glass, could be used in the method taught by Brown.

Referring to Claim 23, Brown is relied upon as discussed above.

Brown further teaches that during the forming of the final fired piece, some degree of devitrification (i.e., crystallization) occurs (Page 2188-2190 section 3.2).

It would have been obvious to one of ordinary skill in the art, at the time of invention by applicant, to have modified the method taught by Brown by using fiber glass waste as the starting material and causing partial crystallization in the final piece since Brown teaches the method of grinding waste glass into a powder, mixing the powder with an additive, forming the powder mixture into a desired shape, and firing the resulting piece in such a manner as to cause some degree of devitrification in the final piece by using waste glass as the starting material, and it would have been obvious to one of ordinary skill in the art that any type of waste glass, including waste fiber glass, could be used in the method taught by Brown.

Claims 5, 6, 8, 9, 14, 15 18, 19, 24 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brown et al (Process design for the production of a ceramic-

like body from recycled waste glass, J of Materials Science, Vol 17, pp 2164-2193, 1982) in view of Simpson (5,830,251).

Referring to Claims 5 and 6, Brown is relied upon as discussed above.

Brown fails to teach the method of reducing a waste glass into glass powder in a liquid (Claim 5) or in water (claim 6).

Simpson ('251) teaches reducing a waste glass into a glass powder by ball milling the glass in water to reduce the particle size of the powder (Col 11 lines 1-3).

It would have been obvious to one of ordinary skill in the art, at the time of invention by applicant, to have modified the method taught by Brown by using fiber glass waste as the starting material since Brown teaches the method of grinding waste glass into a powder, mixing the powder with an additive, forming the powder mixture into a desired shape, and firing the resulting piece by using waste glass as the starting material, and it would have been obvious to one of ordinary skill in the art that any type of waste glass, including waste fiber glass, could be used in the method taught by Brown. It would have been further obvious to one of ordinary skill in the art, at the time of invention by applicant, to have modified the method taught by Brown by reducing the waste glass to a glass powder in a liquid (Claim 5) or in water (Claim 6) as taught by Simpson ('251), which discloses that ball milling waste glass in water is an effective means of reducing the particle size of the powder.

Referring to Claim 8, Brown is relied upon as discussed above.

Brown fails to teach using a glass additive mixture of 70-100 wt% glass powder, 0-20 wt% filler and 0-10 wt% binder.

Simpson teaches a method of forming a ceramic tile from a powder consisting of 55-99 wt% glass powder and 1-45 wt% additives (including binder, fillers, and other materials) (Col 10 lines 46-67).

It would have been obvious to one of ordinary skill in the art, at the time of invention by applicant, to have modified the method taught by Brown by using fiber glass waste as the starting material since Brown teaches the method of grinding waste glass into a powder, mixing the powder with an additive, forming the powder mixture into a desired shape, and firing the resulting piece by using waste glass as the starting material, and it would have been obvious to one of ordinary skill in the art that any type of waste glass, including waste fiber glass, could be used in the method taught by Brown. It would have been further obvious to one of ordinary skill in the art, at the time of invention by applicant, to have modified the method taught by Brown by using a powder mixture of 70-100 wt% glass powder, 0-20 wt% filler and 0-10 wt% binder since Simpson teaches that an effective powder mixture can have a composition of 55-99 wt% glass powder and 1-45 wt% additives (including binder, fillers, and other materials), which would include the claimed composition.

Referring to Claim 9, Brown is relied upon as discussed above.

Brown fails to teach using additives consisting of silica, alumina, zirconia, clay, feldspar, and/or any other ceramic raw material.

Simpson ('251) teaches using a glass powder with additives that are typically common to the tile industry, including silica, clay or other ceramic raw materials (Col 10 lines 48-51).

It would have been obvious to one of ordinary skill in the art, at the time of invention by applicant, to have modified the method taught by Brown by using fiber glass waste as the starting material since Brown teaches the method of grinding waste glass into a powder, mixing the powder with an additive, forming the powder mixture into a desired shape, and firing the resulting piece by using waste glass as the starting material, and it would have been obvious to one of ordinary skill in the art that any type of waste glass, including waste fiber glass, could be used in the method taught by Brown. It would have been further obvious to one of ordinary skill in the art, at the time of invention by applicant, to have modified the method taught by Brown by adding a ceramic raw material as an additive to the glass powder as taught by Simpson ('251), which teaches that the addition of a ceramic raw material to the glass powder can be effective as a binder or for achieving other desired properties for the final product (i.e., porosity, water absorption, or thermal expansion) (Col 10 lines 62-67).

Referring to claims 14 and 15, Brown is relied upon as discussed above.

Brown fails to teach using an aqueous organic binder (Claim 14) or a non-aqueous organic binder (Claim 15).

Simpson ('251) teaches using an organic binder as an additive to a glass powder to improve the forming a ceramic product.

It would have been obvious to one of ordinary skill in the art, at the time of invention by applicant, to have modified the method taught by Brown by using fiber glass waste as the starting material since Brown teaches the method of grinding waste glass into a powder, mixing the powder with an additive, forming the powder mixture

into a desired shape, and firing the resulting piece by using waste glass as the starting material, and it would have been obvious to one of ordinary skill in the art that any type of waste glass, including waste fiber glass, could be used in the method taught by Brown. It would have been further obvious to one of ordinary skill in the art, at the time of invention by applicant, to have modified the method taught by Brown by adding an organic binder as taught by Simpson ('251) since Simpson ('251) teaches that adding an organic binder can be effective in creating a ceramic product from a glass powder. It would have been still further obvious to one of ordinary skill in the art to select an aqueous or non-aqueous solution for use with the organic binder based on the specific and well known properties of the organic binder selected.

Referring to Claim 19, Brown is relied upon as discussed above.

Brown fails to teach mixing the glass powder and additives without a liquid being added.

Simpson ('251) teaches a method of forming ceramic tiles from a glass powder where additives are mixed with the glass powder without a liquid being added during the mixing (Claim 17).

It would have been obvious to one of ordinary skill in the art, at the time of invention by applicant, to have modified the method taught by Brown by using fiber glass waste as the starting material since Brown teaches the method of grinding waste glass into a powder, mixing the powder with an additive, forming the powder mixture into a desired shape, and firing the resulting piece by using waste glass as the starting material, and it would have been obvious to one of ordinary skill in the art that any type

of waste glass, including waste fiber glass, could be used in the method taught by Brown. It would have been further obvious to one of ordinary skill in the art, at the time of invention by applicant, to have modified the method taught by Brown by mixing the glass powder with the additives without a liquid as taught by Simpson ('251) since Simpson ('251) teaches that this can be an effective way for combining the glass powder with some additives.

Referring to Claim 19, Brown is relied upon as discussed above.

Brown fails to teach drying the glass additives mixture in a drier.

Simpson ('251) teaches drying the glass powder-additives mixture (specifically in a spray drier) to form a free flowing granular powder (Col 11 lines 3-6).

It would have been obvious to one of ordinary skill in the art, at the time of invention by applicant, to have modified the method taught by Brown by using fiber glass waste as the starting material since Brown teaches the method of grinding waste glass into a powder, mixing the powder with an additive, forming the powder mixture into a desired shape, and firing the resulting piece by using waste glass as the starting material, and it would have been obvious to one of ordinary skill in the art that any type of waste glass, including waste fiber glass, could be used in the method taught by Brown. It would have been further obvious to one of ordinary skill in the art, at the time of invention by applicant, to have modified the method taught by Brown by drying the glass powder-additives mixture as taught by Simpson ('251) since Simpson ('251) teaches that that will result in a free flowing granular powder, which is highly desirable for many powder forming processes.

Referring to Claim 24, Brown is relied upon as discussed above.

Brown fails to teach the method of forming a ceramic piece from a glass powder made from waste glass where the final ceramic piece is a tile or brick.

Simpson ('251) teaches forming a ceramic article from a glass powder, where the final ceramic article is a tile (abstract).

It would have been obvious to one of ordinary skill in the art, at the time of invention by applicant, to have modified the method taught by Brown by using fiber glass waste as the starting material since Brown teaches the method of grinding waste glass into a powder, mixing the powder with an additive, forming the powder mixture into a desired shape, and firing the resulting piece by using waste glass as the starting material, and it would have been obvious to one of ordinary skill in the art that any type of waste glass, including waste fiber glass, could be used in the method taught by Brown. It would have been further obvious to one of ordinary skill in the art, at the time of invention by applicant, to have modified the method taught by Brown by forming a final product that is a tile, since Simpson ('251) discloses that ceramic tiles can be made from a glass powder by the steps disclosed by Brown.

Referring to Claim 26, Brown is relied upon as discussed above.

Brown fails to teach applying a glaze to the fired ceramic piece.

Simpson ('251) teaches forming a ceramic article from a glass powder, and applying a glaze to the surface of the piece either before or after the initial firing of the piece (Col 11 lines 9-18).

It would have been obvious to one of ordinary skill in the art, at the time of invention by applicant, to have modified the method taught by Brown by using fiber glass waste as the starting material since Brown teaches the method of grinding waste glass into a powder, mixing the powder with an additive, forming the powder mixture into a desired shape, and firing the resulting piece by using waste glass as the starting material, and it would have been obvious to one of ordinary skill in the art that any type of waste glass, including waste fiber glass, could be used in the method taught by Brown. It would have been further obvious to one of ordinary skill in the art, at the time of invention by applicant, to have modified the method taught by Brown by applying a glaze to the ceramic piece since that is a traditional step in ceramics processing to create a desired surface, and Simpson ('251) teaches that it can be effectively done to a ceramic piece formed from a glass powder.

Claims 10, 11-13 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brown et al (Process design for the production of a ceramic-like body from recycled waste glass, J of Materials Science, Vol 17, pp 2164-2193, 1982) in view of Lingart (5,792,524).

Referring to Claim 10, Brown is relied upon as discussed above.

Brown fails to disclose using an inorganic binder such as sodium silicate as an additive to the glass powder.

Lingart ('524) teaches forming a ceramic piece by creating a glass powder, forming the glass powder into a pressed piece, and firing the pressed piece to achieve a ceramic product. Lingart ('524) further teaches the use of an inorganic binder

(specifically sodium silicate) as an additive to the glass powder (Col 6 line 66 – Col 7 line 3).

It would have been obvious to one of ordinary skill in the art, at the time of invention by applicant, to have modified the method taught by Brown by using fiber glass waste as the starting material since Brown teaches the method of grinding waste glass into a powder, mixing the powder with an additive, forming the powder mixture into a desired shape, and firing the resulting piece by using waste glass as the starting material, and it would have been obvious to one of ordinary skill in the art that any type of waste glass, including waste fiber glass, could be used in the method taught by Brown. It would have been further obvious to one of ordinary skill in the art, at the time of invention by applicant, to have modified the method taught by Brown by adding an inorganic binder (such as sodium silicate) to the glass powder as taught by Lingart ('524), which teaches that adding an inorganic binder to the glass powder can improve the properties of the pressed and fired ceramic product.

Referring to Claim 11, Brown is relied upon as discussed above.

Brown fails to disclose using an inorganic colorant as an additive to the glass powder.

Lingart ('524) teaches using an inorganic colorant (specifically an alkali metal oxide or an alkaline-earth metal oxide) to produce a final ceramic product with a desired color (Claims 16-19).

It would have been obvious to one of ordinary skill in the art, at the time of invention by applicant, to have modified the method taught by Brown by using fiber

glass waste as the starting material since Brown teaches the method of grinding waste glass into a powder, mixing the powder with an additive, forming the powder mixture into a desired shape, and firing the resulting piece by using waste glass as the starting material, and it would have been obvious to one of ordinary skill in the art that any type of waste glass, including waste fiber glass, could be used in the method taught by Brown. It would have been further obvious to one of ordinary skill in the art, at the time of invention by applicant, to have modified the method taught by Brown by adding an inorganic colorant as taught by Lingart ('524) which teaches that this is an effective way to obtain a final ceramic piece with a specific desired color.

Referring to Claim 12, Brown is relied upon as discussed above.

Brown fails to disclose using coarse-sized particles to roughen a surface of the ceramic product.

Lingart ('524) teaches adding a coarse particle as an additive such as wood sawdust which creates a rough porous surface on the ceramic product (Col 4 Lines 37-55).

It would have been obvious to one of ordinary skill in the art, at the time of invention by applicant, to have modified the method taught by Brown by using fiber glass waste as the starting material since Brown teaches the method of grinding waste glass into a powder, mixing the powder with an additive, forming the powder mixture into a desired shape, and firing the resulting piece by using waste glass as the starting material, and it would have been obvious to one of ordinary skill in the art that any type of waste glass, including waste fiber glass, could be used in the method taught by

Brown. It would have been further obvious to one of ordinary skill in the art, at the time of invention by applicant, to have modified the method taught by Brown by adding a course particle such as wood saw dust as taught by Lingart ('524) which teaches that such an addition will result in a rough porous surface.

Referring to Claim 13, Brown is relied upon as discussed above.

Brown fails to disclose using additives which will improve some property of the final ceramic product.

Lingart ('524) discloses using additives which will improve some property of the final ceramic piece (for example thermal insulation) (Col 4 lines 37-40).

It would have been obvious to one of ordinary skill in the art, at the time of invention by applicant, to have modified the method taught by Brown by using fiber glass waste as the starting material since Brown teaches the method of grinding waste glass into a powder, mixing the powder with an additive, forming the powder mixture into a desired shape, and firing the resulting piece by using waste glass as the starting material, and it would have been obvious to one of ordinary skill in the art that any type of waste glass, including waste fiber glass, could be used in the method taught by Brown. It would have been further obvious to one of ordinary skill in the art, at the time of invention by applicant, to have modified the method taught by Brown by adding a material to alter some property of the final ceramic product as taught by Lingart ('524) since Lingart ('524) teaches that the final properties of the ceramic piece can be altered by the addition of certain additives to the glass powder.

Referring to Claim 25, Brown is relied upon as discussed above.

Brown fails to teach a method of forming a ceramic product from a glass powder formed from waste glass where the final ceramic product has a smooth glossy surface.

Lingart ('524) teaches a method of forming a ceramic product from a glass powder, where the final ceramic product has a smooth face which is substantially free from defects (Col 2 lines 60-66).

It would have been obvious to one of ordinary skill in the art, at the time of invention by applicant, to have modified the method taught by Brown by using fiber glass waste as the starting material since Brown teaches the method of grinding waste glass into a powder, mixing the powder with an additive, forming the powder mixture into a desired shape, and firing the resulting piece by using waste glass as the starting material, and it would have been obvious to one of ordinary skill in the art that any type of waste glass, including waste fiber glass, could be used in the method taught by Brown. It would have been further obvious to one of ordinary skill in the art, at the time of invention by applicant, to have modified the method taught by Brown by forming the ceramic piece to have a smooth face free from defects as taught by Lingart ('524) if the desired final product was to have a smooth surface.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Tikhonova (5,895,511) teaches a method of forming a ceramic product from waste glass.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Russell J. Kemmerle III whose telephone number is

571-272-6509. The examiner can normally be reached on Monday through Friday, 8:30-4:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

RK

  
CHRIS FIORILLA  
SUPERVISORY PATENT EXAMINER  
